

**DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: Stack Test Observation**

B372128475

<b>FACILITY:</b> ANR Pipeline - Reed City Compressor Station		<b>SRN / ID:</b> B3721
<b>LOCATION:</b> 7677 230th Ave., REED CITY		<b>DISTRICT:</b> Cadillac
<b>CITY:</b> REED CITY		<b>COUNTY:</b> OSCEOLA
<b>CONTACT:</b>		<b>ACTIVITY DATE:</b> 02/05/2015
<b>STAFF:</b> Kurt Childs	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> MAJOR
<b>SUBJECT:</b> 40CFR Part 63, Subpart HHH BTEX emissions and LDAR testing.		
<b>RESOLVED COMPLAINTS:</b>		

ANR Pipeline Company Reed City Compressor Station Lo Reed and Reed City Stray 40 CFR 63 Subpart HHH Thermal Oxidizer Performance Testing and Leak Detection And Repair (LDAR) Testing.

Date of Test: 2/5/2015

Test Company: Bureau Veritas; Thomas Schmelter.

ANR (Transcanada) Representatives: Jeffery Punjak, Controls Specialist, Plant Reliability; Steve Marsh. Steve Cordell.

AQD Representatives: Thomas Gasloli, Kurt Childs.

Weather Conditions: Partly Sunny, 16 degrees F, SW winds

Scope of Test: BTEX emissions testing of the Lo Reed glycol dehydration system thermal oxidizer control device and VOC LDAR testing of the glycol dehydration system closed vent system. The thermal oxidizer is a secondary control device to the condenser which is the primary control device for compliance with Subpart HHH. The closed vent system captures emissions from the glycol reboiler still column and directs them to the control devices.

Prior to arriving at the site I had taken the Transcanada online safety orientation. When I arrived on site I met with Mr. Marsh and Mr. Punjak for a site orientation. Bureau Veritas (BV) was on-site and set up with a trailer next to the dehy thermal oxidizer stack, Tom Gasloli was also there. The first of three 1 hour thermal oxidizer test runs began at 9:30AM. BTEX samples were collected using a sample probe in the stack port that drew exhaust gasses through moisture collection to charcoal tubes using vacuum pumps. The stack temperature is required to be maintained above 1400 degrees F and is monitored by a permanent temperature sensor near the top of the stack. The stack temperature is continuously monitored. During the test we observed BV calibrate the vacuum pumps and conduct pre and post leak checks.

During the test Mr. Cordell was collecting process data every 10 minutes; a sample of the data collection record is attached. Process data included condenser temperature, thermal oxidizer temperature, stack gas flow rate, natural gas flowrate through the station during testing. These records indicate the stack temperature was maintained above 1400 degrees F. According to Mr. Marsh the glycol recirculation rate is set at 4 gallons per minute. Subpart HHH also requires determination of the annual average natural gas flowrate to the dehydrator. This is calculated by Transcanada and will be provided in the test report.

BV conducted the LDAR testing in between and during the BTEX emission limit testing. LDAR testing consists of identifying all components of the closed vent system required to be monitored and determining if each location is "unsafe" or "difficult" to inspect as defined in Subpart HHH. Each of these components was tagged by Mr. Punjak prior to the test. The dehydrator system is primarily located inside a pole building with some components leading to the thermal oxidizer located outside. A total of 27 components were identified in the closed vent system. 17 of them were inside the building and all were designated as difficult to inspect due to elevation and access and were tagged with numbered red tags. 10 components were located outside and each was easily accessible and tagged with numbered yellow tags.

Leak detection was evaluated using USEPA Method 21 which addresses the use of portable FID equipment to sample around the previously identified components. BV utilized a Thermo Scientific TVA 1000 portable FID. This analyzer required a pre-test calibration using a zero gas and calibration gas with a methane

concentration of less than 10,000 parts per million by volume. BV used a calibration gas with a methane concentration of 400 ppmv.

The analyzer response time was also evaluated and was within the 30 second limit. VOC background concentrations were evaluated using the FID prior to the LDAR testing. Background VOC levels inside and outside the building were measured at 4ppmv. The background concentration will be subtracted from the LDAR test measurements to determine actual component concentrations. The detection limit of the FID is 2.5 ppmv.

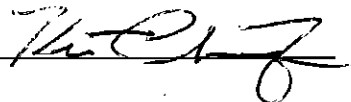
Subpart HHH requires "no detectable emissions" for the closed vent system. "No detectable emissions" is defined in 63.1281(b) as <500 ppmv. The LDAR testing proceeded with Mr. Schmelter accessing each component and sampling around the component with the portable FID. Mr. Schmelter would call out readings which were recorded by Mr. Punjak. I observed the LDAR measurements of each component in the closed vent system with the exception of a couple of components located on the roof of the building which were to be tested following the completion of the BTEX emissions testing. The trailer would need to be moved to access the roof with the man lift. Most of the readings taken were near the background VOC level with the highest observed reading being 20 ppmv.

It appeared that each component of the closed vent system had been identified and tagged and each of these were tested. The closed vent system includes a condenser bypass which is necessary in case the condenser becomes blocked. Subpart HHH requires that bypasses be equipped with a flow indicator and alarm or the bypass shall be secured using a car-seal or lock and key. ANR plans to put a lock on the bypass by the compliance date.

BTEX and LDAR testing was scheduled the following day for the Reed City Stray facility which is adjacent to the Lo Reed, these two facilities make up the Reed City Compressor Station stationary source.

Both the BTEX emission testing and the LDAR testing appeared to proceed as required for a successful test and the correct procedures appeared to be followed. A test report will be provided by BV/ANR.

NAME



DATE

2-9-15

SUPERVISOR

